Chapter 2 Programmer's Guide

Programming

Before programming, follow the instructions in the *Set Up* section of the *User's Guide.*

Consult the *Parameter Descriptions* section beginning on page 2-6 for explanations of parameter types.

If the default values suit your requirements, all you need to do is scan the appropriate **SET DEFAULT** bar code. Parameters other than default values can be set by scanning sequences of bar codes. *Parameter Menus* contain all the bar codes necessary to program the controller for each parameter selection.

Scanning Sequences

Scanning Sequence Examples

A scanning sequence establishes a value for one parameter type. During a scanning sequence, you scan bar codes for a parameter type, a parameter value, and **ENTER**.

Suppose that after consulting the *Default Table*, you decide you want to retain all default settings, except for two parameters, **CONVERT ALL TO CODE 39** and **INTERLEAVED 2 OF 5** - **LENGTH 2**.

First, scan the **SET DEFAULT** bar code. This establishes all default values. Now turn to the **CONVERT ALL TO CODE** 39 menu. The default for this parameter is **DISABLED** - you need it **ENABLED**. Scan the three bar codes listed below:

SCAN	YOU WILL HEAR...
1. CONVERT ALL TO CODE 39	Short high tone
2. ENABLED	Short high tone
3. ENTER	Hi/Lo/Hi/Lo warble

The **INTERLEAVED 2 OF 5** - **LENGTH 2** default is 0, but you want it set to **8**. To set the **INTERLEAVED 2 OF 5** - **LENGTH 2** parameter, scan the four bar codes below. There are four bar codes because this sequence includes a two-digit entry equal to the number of readable digits printed under the bar code. Single-digit entries must have leading zeros:

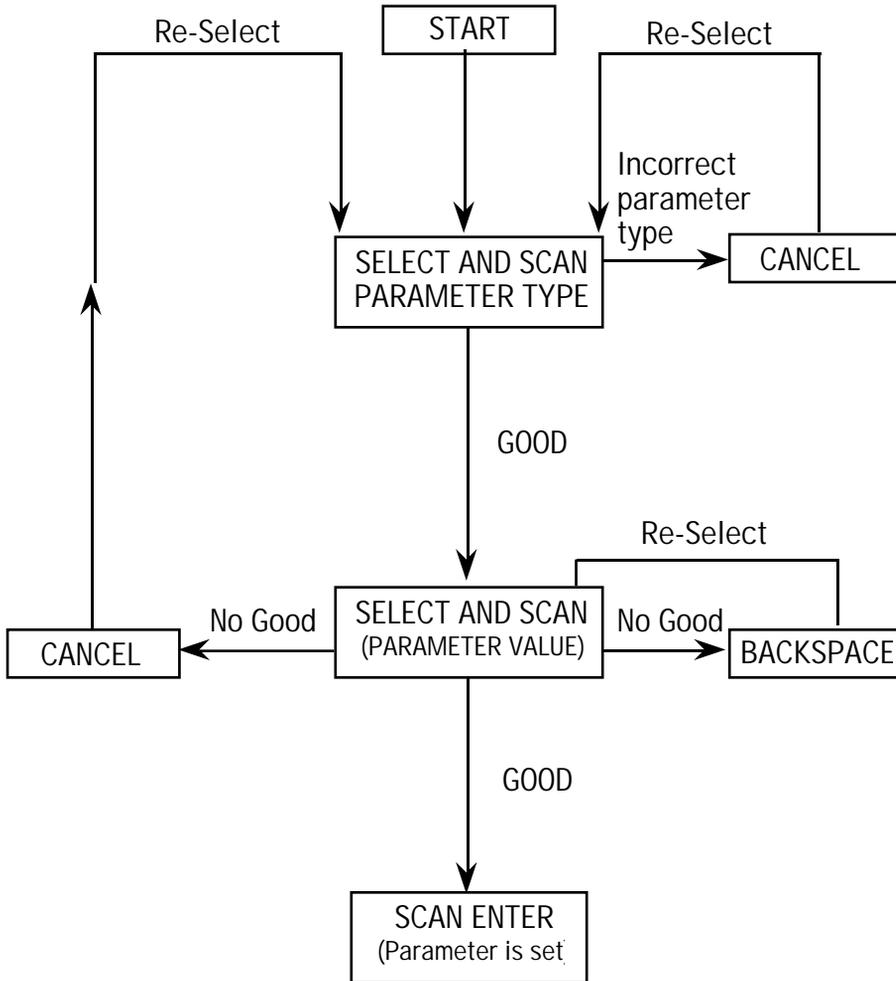| SCAN	YOU WILL HEAR...
1. INTERLEAVED 2 OF 5 - LENGTH 2	Short high tone
2. 0	Short high tone
3. 8	Short high tone
4. ENTER	Hi/Lo/Hi/Lo warble

The above parameter values are now stored in memory.

Errors While Scanning

Don't worry if you make an error during a scanning sequence. There are two special-purpose bar codes, **BACKSPACE** and **CANCEL**, to help you.

Scanning the **BACKSPACE** parameter menu erases the value of the previous bar code scanned but keeps you within the scanning sequence. For example, suppose you had scanned "0" and "7" instead of "0" and "8" when establishing the length of Interleaved 2 of 5. Scan **BACKSPACE** to erase the "7"; now scan the correct option value "8."

Scanning **CANCEL** removes you from the current sequence so that you can start again.

Scanning Sequence Flow Chart

```
         Re-Select              START              Re-Select

                                                    Incorrect
                                                    parameter
                                                    type              CANCEL
                          SELECT AND SCAN
                          PARAMETER TYPE


                               GOOD


                                                    Re-Select

          No Good   SELECT AND SCAN   No Good
  CANCEL  ◄─────    (PARAMETER VALUE)  ─────►   BACKSPACE


                               GOOD


                           SCAN ENTER
                          (Parameter is set
```

Parameter Descriptions

Set Parameter Defaults

Scanning this bar code returns all parameters to the values listed in the *Default Table* on page 2-10.

Host Interface Select

Select the type of host to be connected.

Add/delete Code Types

The bar code menu selections enable the scanner to decode any or all of the following symbologies. If you try to decode a symbol which the terminal cannot recognize, the symbol will be decoded, but not transmitted to the terminal.

- UPC Versions A and E (EAN 8 and 13)
- Code 39
- Interleaved 2 of 5
- Codabar
- Discrete 2 of 5
- Code 128

Fixed Lengths For Code 2 of 5

Select one or two lengths for the Interleaved or Discrete 2 of 5 codes. Determine the number of characters represented in the Discrete 2 of 5 or Interleaved 2 of 5 bar codes by counting the number of printed (i.e., human readable) digits beneath the bar code. Set one or both lengths, one per scanning sequence. LENGTH 1 may range from 01-31 and LENGTH 2 from 00-31.

Decode Options

Beep After Good Decode

Determine if the unit beeper will sound during normal scanning. Usually it is desirable to operate the unit with the beeper enabled. In all cases, the beeper operates during parameter menu scanning and indicates error conditions. *Beeper Definitions* are on page 2-9.

Decode UPC/EAN Supplemental

Select whether UPC/EAN is decoded with or without supplemental characters, or whether the unit will autodiscriminate between the two. Supplementals are additionally appended characters, according to specific code format conventions (e.g., UPC A+2, UPC E+2, EAN 8+5). If UPC/EAN with supplemental characters is selected, UPC/EAN symbols without supplemental characters won't be decoded. If UPC/EAN without supplemental characters is selected and the scanner is presented with a UPC/EAN plus supplemental symbol, the UPC/EAN will be decoded and the supplemental characters ignored. If autodiscrimination is chosen, the scanner will, after additional processing to ensure a good decode, transmit either.

It is also important to verify that the attached controller is configured for the same supplemental mode.

Decode UPC Only

If selected, this option limits decode capability to UPC versions only. EAN decode capability is disabled.

Wand Emulator Bar Output

This parameter can be used to change the default polarity setting to match the type of signal (bar = logic high, or bar = logic low) expected by the receiving system.

Variable Leading Margin

This parameter, used only in wand emulation, allows the selection of variable leading margin, ranging from 80 msec to 200 msec, in 10 msec increments.

Convert All To Code 39

This parameter, used only in wand emulation, converts the output of all data to Code 39 format. Any coded character not in the Code 39 character set is replaced by a Code 39 blank.

Power Mode

For wand emulation, this parameter determines whether or not power remains on after a decode attempt. When in low power mode, the scanner powers down after each decode. When in continuous power mode, power remains on after each decode. In order to conserve power, this parameter should be set to low power mode.

Scanstand/IntelliStand Time-out

ScanStand/Intellistand operation can be programmed to shut down if no bar code is detected within the specified time. Duration is programmable in 15 minute increments from 15 minutes to one hour.

Laser On Time

This parameter allows you to select a specific laser on time. Values range from 0.5 to 6 seconds in 0.5 second increments. The default is 3 seconds.

Beeper Definitions

Standard Use

Beeper Sequence	Indication
1 Beep - short high tone	A symbol has been successfully decoded.
2 Beeps - long low tone	Data transmission not successful
4 Beeps - short high tone	Low power indication; no further scanning is possible. Change or recharge battery.

Parameter Menu Scanning

Beeper Sequence	Indication
1 Beep- short high tone	Appropriate menu within the scanning sequence has been read.
1 Beep- warble sound	Parameter value entered successfully.
2 Beeps- long low tone	Parameter not entered or incorrect sequence performed.

Default Table

Parameter	Default
Code Types	All
Host Interface Select	Symbollink Controller
Code Lengths	
D 2 of 5 Length 1	12
D 2 of 5 Length 2	0
I 2 of 5 Length 1	14
I 2 of 5 Length 2	0
Decode Options	
Beep After Good Decode	Enabled
Decode UPC/EAN Supplemental	Disabled
Decode UPC Only	Disabled
Wand Emuluator Bar Output	Bar High⁄Margin Low
Variable Leading Margin	80 msec
Convert All to Code 39	Disabled
Power Mode	Low Power
ScanStand/IntelliStand Time-out	60 minutes
Laser On Time	3 seconds

Parameter Menus

Set Default	page 2-12
Host Interface Select	page 2-13
Code Types	page 2-14 to 2-15
Fixed Lengths for Code 2 of 5	page 2-16 to 2-17
Decode Options	page 2-18 to 2-19
Variable Leading Margin	page 2-20 to 2-21
Wand Emulator Bar Output	page 2-22
Convert All To Code 39	page 2-23
Power Mode	page 2-24
ScanStand/IntelliStand Time-out	page 2-25 to 2-26
Laser On Time	page 2-27 to 2-29

Set Defaults

To set all parameters to their default settings, scan the bar code below.

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SET DEFAULT

Host Interface Select

To select a controller type:

1. Scan the **INTERFACE TYPE** bar code.
2. Scan the option bar code corresponding to the desired type.
3. Scan **ENTER.**

INTERFACE TYPE

SYMBOLLINK CONTROLLER

PORTABLE TERMINAL

BACKSPACE - deletes the last bar code scanned.

CANCEL - deletes the entire change and returns the user to the decode mode.

ENTER - stores and enters the new change.

BACKSPACE

ENTER

CANCEL

Code Types

These options add or delete a code type.

1. Scan the **ADD** or **DELETE** bar code.
2. Scan the bar code corresponding to the code type to be added.
3. Scan **ENTER**.

ADD

DELETE

Code Types (Contd)

|||||||||||||
CODE 39

|||||||||||||
CODE 93

|||||||||||||
UPC/EAN

|||||||||||||
INTERLEAVED 2 OF 5

|||||||||||||
DISCRETE 2 OF 5

|||||||||||||
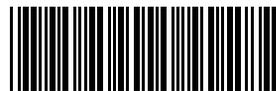CODE 128

|||||||||||||
ALL CODES

|||||||||||||
CODABAR

BACKSPACE - deletes the last bar code scanned.

CANCEL - deletes the entire change and returns the user to the decode mode.

ENTER - stores and enters the new change.

|||||||||||||
BACKSPACE

|||||||||||||
ENTER

|||||||||||||
CANCEL

Fixed Lengths For A Code 2 of 5

To set the fixed lengths for a Code 2 of 5:

1. Scan the **FIXED LENGTH** bar code corresponding to the length to be changed.

2. To enter the length, scan two bar codes from the next page; the first bar code scanned should signify the most significant digit.

3. Scan **ENTER**.

DISCRETE 2 OF 5   LENGTH 1
(Range 01-31)

DISCRETE 2 OF 5   LENGTH 2
(Range 00-31)

INTERLEAVED 2 OF 5
(Range 01-31)

INTERLEAVED 2 OF 5
(Range 00-31)

Fixed Lengths For A Code 2 of 5 (Contd)

0

5

1

6

2

7

3

8

4

9

BACKSPACE - deletes the last bar code scanned.

CANCEL - deletes the entire change and returns the user to the decode mode.

ENTER - stores and enters the new change.

BACKSPACE

ENTER

CANCEL

Decode Options

To select one of the decode options:

1. Scan the desired **DECODE OPTION** bar code.
2. Scan the **ENABLE** or **DISABLE** option bar code.
3. Scan **ENTER**.

||||||||||||||||||||||||||

DECODE UPC/EAN SUPPLEMENTAL

||||||||||||||||||||||||||

DECODE UPC ONLY

||||||||||||||||||||||||||

BEEP AFTER GOOD DECODE

Decode Options (Contd)

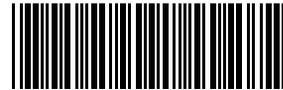|||||||||||||||||||
ENABLED

|||||||||||||||||||
DISABLED

BACKSPACE - deletes the last bar code scanned.

CANCEL - deletes the entire change and returns the user to the decode mode.

ENTER - stores and enters the new change.

|||||||||||||||||||
BACKSPACE

|||||||||||||||||||
ENTER

|||||||||||||||||||
CANCEL

Variable Leading Margin

To select a variable leading margin:

1. Scan the **LEADING MARGIN** bar code.
2. Scan the bar code corresponding to the desired value.
3. Scan **ENTER**.

LEADING MARGIN

80 MSEC

90 MSEC

100 MSEC

110 MSEC

120 MSEC

130 MSEC

Variable Leading Margin (Contd)

140 MSEC

150 MSEC

160 MSEC

170 MSEC

180 MSEC

190 MSEC

200 MSEC

BACKSPACE - deletes the last bar code scanned.

CANCEL - deletes the entire change and returns the user to the decode mode.

ENTER - stores and enters the new change.

BACKSPACE

ENTER

CANCEL

Wand Emulator Bar Output

To select a wand emulator bar output:

1. Scan the **WAND EMULATOR BAR OUTPUT** bar code.
2. Scan the bar code corresponding to the desired mode.
3. Scan **ENTER**.

WAND EMULATOR

BAR = HIGH

BAR = LOW

BACKSPACE - deletes the last bar code scanned.
CANCEL - deletes the entire change and returns the user to the decode mode.
ENTER - stores and enters the new change.

BACKSPACE

ENTER

CANCEL

Convert All To Code 39

To convert all decoded symbologies to Code 39:

1. Scan the **CONVERT ALL TO CODE 39** bar code.
2. Scan the **ENABLED** or **DISABLED** bar code.
3. Scan **ENTER**.

CONVERT ALL TO CODE 39

ENABLED

DISABLED

BACKSPACE - deletes the last bar code scanned.
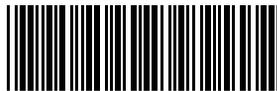CANCEL - deletes the entire change and returns the user to the decode mode.
ENTER - stores and enters the new change.

BACKSPACE

ENTER

CANCEL

Power Mode

To change the power mode:

1. Scan the **POWER MODE** bar code.
2. Scan the **CONTINUOUS** or **LOW POWER** bar code.
3. Scan **ENTER**.

POWER MODE

CONTINUOUS

LOW POWER

BACKSPACE - deletes the last bar code scanned.

CANCEL - deletes the entire change and returns the user to the decode mode.

ENTER - stores and enters the new change.

BACKSPACE

ENTER

CANCEL

Scanstand/IntelliStand Time-out

To select a ScanStand/IntelliStand time-out:

1. Scan the bar code below.
2. Scan the bar code corresponding to the desired time-out.
3. Scan **ENTER**.

SCANSTAND/INTELLISTAND TIME-OUT

Scanstand/IntelliStand Time-out (Contd)

15 MINUTES

60 MINUTES

30 MINUTES

75 MINUTES

45 MINUTES

90 MINUTES

BACKSPACE - deletes the last bar code scanned.

CANCEL - deletes the entire change and returns the user to the decode mode.

ENTER - stores and enters the new change.

BACKSPACE

ENTER

CANCEL

Laser On Time

To select a laser on time:

1. Scan the bar code below.
2. Scan the bar code corresponding to the desired value.
3. Scan **ENTER**.

LASER ON TIME

Laser On Time (Contd)

||| ||||| |||| ||| ||||| |||| |||

0.5 SEC.

||| ||||| |||| ||| ||||| |||| |||

2.0 SEC.

||| ||||| |||| ||| ||||| |||| |||

1.0 SEC.

||| ||||| |||| ||| ||||| |||| |||

2.5 SEC.

||| ||||| |||| ||| ||||| |||| |||

1.5 SEC.

||| ||||| |||| ||| ||||| |||| |||

3.0 SEC.

Laser On Time (Contd)

3.5 SEC.

5.0 SEC.

4.0 SEC.

5.5 SEC.

4.5 SEC.

6.0 SEC.

BACKSPACE - deletes the last bar code scanned.

CANCEL - deletes the entire change and returns the user to the decode mode.

ENTER - stores and enters the new change.

BACKSPACE

ENTER

CANCEL